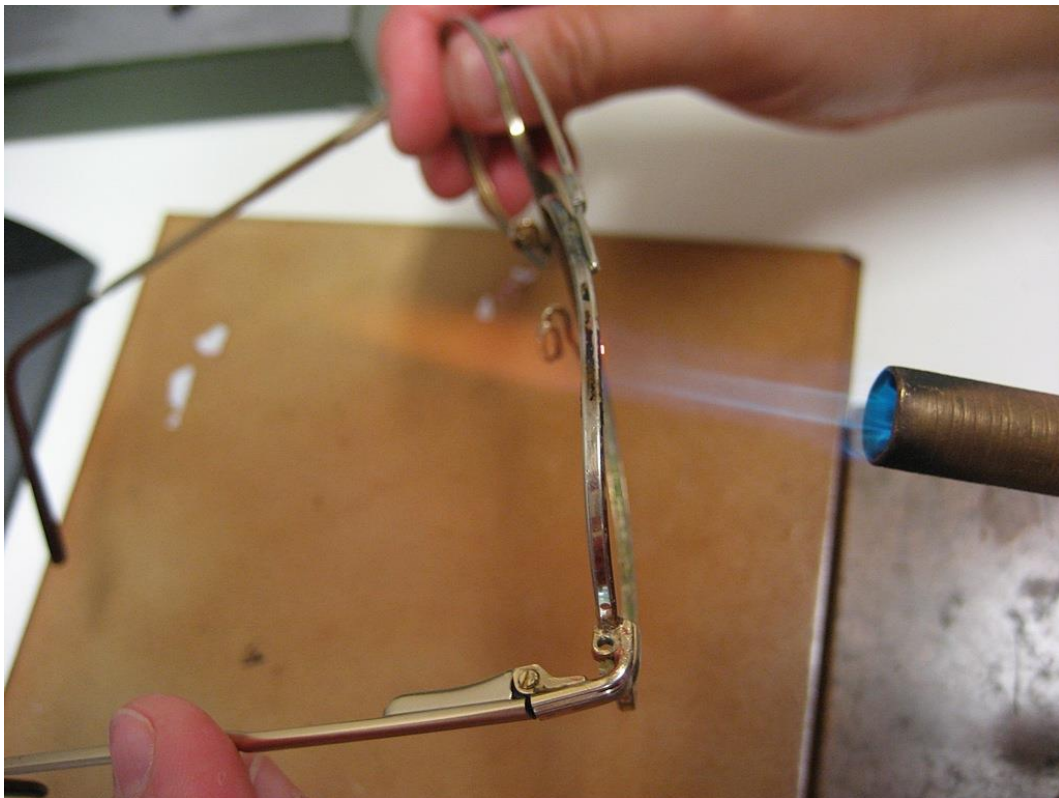


12 Soldering of spectacle frame

12.1 Introduction

In the optical store we use hard soldering if the temperature is more than 450°C. Soldering with hard solder wire is solid. Soldering machine is usually propane-butane, helium or electric. For better soldering is used borax (sodium tetraborate decahydrate).



Picture 12.1: Soldering of metal spectacle frame (Benes et al. 2010).

12.2 Goals

- Solder spectacle pad holder
- Solder the broken eye frame
- Solder so called triple connection

12.3 Equipment

Metal spectacle frame, propan-butan soldering machine, binding wire, soldering wire, melting substance borax, drilling machine, polishing instrument, protective glasses, dish with water.

12.4 Methods

Solder spectacle pad holder

Put the borax on the frame and use the propan-butan soldering machine to heat the metal frame to red color. Put the pad holder on the frame into the top of the flame. In short time the solder will melt and flew into the connection. After that put the soldering frame out of the flame to cool the connection.

Solder the broken eye frame

Put the borax and silver solder on the broken part. Put this part of the frame into the flame and wait for silver solder melting.

Solder so called triple connection

In case of broken connection eye frame-opening connection-side holder you have to use connection wire or continue in this sequence. Firstly solder half of the opening to the side holder. Further put the eye frame to previous connection to solder it.

12.5 Results

Solder spectacle pad holder

Pad holder should be perfectly adapted. Solder should not be in the eye frame

Solder the broken eye frame

If the solder is in the eye frame groove use the drilling machine to remove the solder

Solder so called triple connection

If you solder eye frame connection you should pay attention to its correct adaptation

12.6 Discussion

We do soldering often in optical store. After the soldering the frame should be polished with polishing disk connected to the drilling machine. Sometimes is used color on the frame surface.

12.7 Conclusion, notes, comments

What is the cost of soldering in optical store?

What is insurance for soldering?